

CLAIMS

1. A manufacturing method of a magnetic recording medium,
for processing an object to be processed in which continuous
5 recording layers are formed on both surfaces of a substrate to
form divided recording layers each formed by a number of
divided recording elements on both the surfaces of the
substrate, comprising:

10 a processing step of simultaneously processing both the
surfaces of the object to be processed.

2. The manufacturing method of a magnetic recording
medium according to claim 1, wherein:

15 the object to be processed includes the continuous
recording layer, a mask layer, and a resist layer formed on
each of the surfaces of the substrate in that order; and

the manufacturing method comprises

a resist layer processing step of processing the resist
layer in a predetermined pattern,

20 a mask layer processing step of processing the mask layer
in the pattern based on the resist layer, and

a continuous recording layer processing step of
processing the continuous recording layer in the pattern based
on the mask layer to divide the continuous recording layer
into the number of divided recording elements; and

25 at least one of the resist layer processing step, the

mask layer processing step, and the continuous recording layer processing step is performed to simultaneously process both the surfaces of the object to be processed.

3. The manufacturing method of a magnetic recording
5 medium according to claim 2, wherein

the resist layer processing step simultaneously transfers the pattern onto the resist layers on both the surfaces of the object to be processed by imprinting.

4. The manufacturing method of a magnetic recording
10 medium according to claim 2 or 3, wherein

the continuous recording layer processing step simultaneously processes the continuous recording layers on both the surfaces of the object to be processed by ion beam etching.

15 5. The manufacturing method of a magnetic recording medium according to any one of claims 2 to 4, further comprising a resist layer removal step of removing the resist layer before the continuous recording layer processing step.

6. The manufacturing method of a magnetic recording
20 medium according to any one of claims 2 to 5, further comprising a deposition step of depositing the continuous recording layer, the mask layer, and the resist layer, wherein the deposition step simultaneously deposits at least one of the continuous recording layer, the mask layer, and the resist
25 layer on both sides of the substrate.

7. The manufacturing method of a magnetic recording medium according to any one of claims 1 to 6, wherein

a plurality of the objects to be processed are processed simultaneously.

5 8. The manufacturing method of a magnetic recording medium according to any one of claims 1 to 7, wherein

all the steps are preformed to simultaneously process both the surfaces of the object to be processed.

9. A manufacturing apparatus of a magnetic recording medium, for processing an object to be processed in which continuous recording layers are formed on both surfaces of a substrate to form divided recording layers each formed by a number of divided recording elements on both the surfaces of the substrate, comprising a processing device for
10 simultaneously processing both the surfaces of the substrate.
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10. The manufacturing apparatus of a magnetic recording medium according to claim 9, comprising:

a resist layer processing device for processing a resist layer of the object to be processed in a predetermined pattern,
20 in the object the continuous recording layer, a mask layer, and the resist layer being formed on each of the surfaces of the substrate in that order;

a mask layer processing device for processing the mask layer in the pattern based on the resist layer; and

25 a continuous recording layer processing device for

processing the continuous recording layer in the pattern based on the mask layer to divide the continuous recording layer into the number of divided recording elements, wherein

at least one of the resist layer processing device, the mask layer processing device, and the continuous recording layer processing device is configured to simultaneously process both the surfaces of the object to be processed.

11. The manufacturing apparatus of a magnetic recording medium according to claim 10, wherein

the resist layer processing device is a press device which is configured to simultaneously transfer the pattern onto the resist layers on both the surfaces of the object to be processed by imprinting.

12. The manufacturing apparatus of a magnetic recording medium according to claim 10 or 11, wherein

the continuous recording layer processing device is an ion beam etching device which is configured to simultaneously process the continuous recording layers on both the surfaces of the object to be processed by ion beam etching.

13. The manufacturing apparatus of a magnetic recording medium according to any one of claims 10 to 12, further comprising a deposition device for simultaneously depositing at least one of the continuous recording layers, the mask layers, and the resist layers on both sides of the substrate symmetrically.

14. The manufacturing apparatus of a magnetic recording medium according to any one of claims 9 to 13, further comprising a holder for holding a plurality of the objects to be processed to enable simultaneous process of the plurality
5 of objects to be processed.

15. The manufacturing apparatus of a magnetic recording medium according to any one of claims 9 to 14, wherein

both the surfaces of the object to be processed are simultaneously processed in all processing steps.

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